

Appl. No. 09/706,926
Arndt. dated January 20, 2005
Reply to office action of October 20, 2004

REMARKS

This is in response to the Office Action mailed on October 20, 2004. The Office Action rejected Applicant's Claims 1-7, 13-15 and 16-19 under 35 USC 101. Claims 1-7, 13-15 and 16-19 under 35 USC 112, second paragraph, as being indefinite. Claims 1-6 and 8-27 were rejected as being obvious in view of the combination of US Pat. No. 6,195,465 ("Zandi") and U.S. Pat. No. 6,084,989 ("Eppler") and Claim 7 was rejected as being obvious in view of the combination of Zandi, Eppler and U.S. Pat. No. 6,766,062 ("Donoho").

Applicant has amended Claims 1, 2, 5-9, 11, 13, 16, 18, 20 and 24. Applicant respectfully request the Examiner to reconsider the present application in light of the following discussion. Applicant submits that all pending claims are in condition for allowance.

Rejection under 35 U.S.C. 101

Applicant's Claims 1-7, 13-15 and 16-19 were rejected under 35 USC 101 as failing to recite a useful method. The Office Action stated that determining coefficients and storing them appears too preliminary to provide useful results. The Office Action indicated that absent a claimed relationship positively recited with the claims between the coefficients and the real world items, the method is not useful. Accordingly, Applicant has amended independent Claims 1, 13 and 16 to recite that the coefficients are stored in a computer-usable database on a physical storage medium. Reconsideration and withdrawal of the rejection of Claims 1-7, 13-15 and 16-19 under 35 U.S.C. 101 is respectfully requested.

Rejection under 35 U.S.C. 112

Applicant's Claims 1-7, 13-15 and 16-19 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action stated that it is unclear what elements are being positively recited versus what elements are "corresponding to" or "representing" as part of an intended use. Accordingly, Applicant has amended independent Claims 1, 13 and 16 to more positively and clearly recite the claim elements. Reconsideration and withdrawal of the rejection of Claims 1-7, 13-15 and 16-19 under 35 U.S.C. 112, second paragraph, is respectfully requested.

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Independent Claim 1

Applicant's independent Claim 1 relates to a method for representing cartographic data. The recited method comprises providing a cartographic database containing data that represents a plurality of geographic features and computing a plurality of wavelet coefficients from the data that represents at least one of the geographic features. The method also indexes the wavelet coefficients by a plurality of display scales and stores the wavelet coefficients in a database. Claim 1 is not obvious in view of the combination of Zandi and Eppler because the combination fails to disclose or suggest every claim element of Claim 1. Specifically, the combination fails to disclose or suggest computing the recited wavelet coefficients for the geographic feature and indexing the wavelet coefficients by a plurality of display scales.

Zandi discloses compression and decompression system having an encoding portion and a decoding portion. The encoding portion creates compressed data from input image data while the decoding portion reconstructs a version of the original image data. (*See*, Zandi: column 6, line 61 – column 7, line 1). The Zandi system performs decomposition of the image using reversible wavelets to provide a series of wavelet coefficients. (*See*, Zandi: column 8, lines 3 - 13). Although Zandi discloses producing a series of wavelet coefficients, the wavelet coefficients are computed from image data, not from the recited data that represents a geographic feature in the cartographic database. As noted in the Office Action, Zandi does not disclose the cartographic database and geographic features. (*See*, Office Action, page 4). Furthermore, Zandi completely fails to disclose indexing the wavelet coefficients by a plurality of display scales.

Eppler discloses a system for processing images from a satellite to locate landmarks in the image for determining the position and altitude of that satellite. (*See*, Eppler: column 1, lines 9 - 14). The Eppler system includes a landmark database that includes data representing the boundary vertices for the perimeter of the landmark, such as a lake. The image from the satellite is processed to extract a mask of a landmark. An offset error is determined by comparing the mask from the satellite image to the perimeter from the landmark database. The offset error may be used to determine the position and altitude of the satellite. (*See*, Eppler: Figure 4, column 16, line 46 – column 17, line 8). Although Eppler discloses geographic features, Eppler fails to disclose or suggest the wavelet coefficients are computed

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from data that represents the geographic feature. In contrast, Eppler completely fails to mention wavelets or wavelet coefficients. Furthermore, Eppler also completely fails to disclose indexing the wavelet coefficients by a plurality of display scales.

Not only do the cited references fail to disclose or suggest every recited claim element, there is also no suggestion or motivation to combine and modify the cited references. The Office Action indicated that the motivation for combining Zandi and Eppler is in order to provide a system for processing digitized images to automatically located landmarks in the images that are used to determine the position and altitude of the imaging system. (*See*, Office Action, page 4). Applicant respectfully points out that the stated motivation is the purpose of the Eppler patent while the purpose of the Zandi patent of image compression and decompression is totally unrelated. Furthermore, it is uncertain how the wavelet coefficients would be used in the combined references. In Zandi, the wavelet coefficients are computed to compress the image data; however, the Applicant cannot identify how the wavelet coefficients would be used in Eppler to process digitized images for locating landmarks in the images that are used to determine the position and altitude of the imaging system. Moreover, the claimed invention of Claim 1 recites that the wavelet coefficients are useable for displaying a representation of the geographic feature, such as on a map display of a navigation system. The combined references do not even suggest the use of wavelet coefficients with a cartographic database.

For at least the above reasons, Applicant's independent Claim 1 is not obvious in view of the combination of Zandi and Eppler.

Independent Claim 8

Applicant's independent Claim 8 relates to a method for displaying a representation of a geographic feature. The recited method comprises computing a function that represents the geographic feature using the retrieved wavelet coefficients and using the function to display the representation of the geographic feature. The method further recites that the wavelet coefficients are derived from a plurality of data points specifying geographic locations. Claim 8 is not obvious in view of the combination of Zandi and Eppler because the combination fails to disclose or suggest every claim element of Claim 8.

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Although Zandi discloses producing a series of wavelet coefficients, the wavelet coefficients are computed from image data, not from the recited derived from a plurality of data points specifying geographic locations. Additionally, Zandi does not disclose computing a function that represents the geographic feature using the retrieved wavelet coefficients and using the function to display the representation of the geographic feature. Rather, Zandi performs decomposition of an image to provide a series of wavelet coefficients, and then reconstructs a version of the original image using the wavelet coefficients. (*See*, Zandi: column 8, lines 3 – 13). Zandi does not compute a function representing a geographic feature using the wavelet coefficients; in contrast, Zandi merely reconstructs the compressed image data. Furthermore, Zandi does not disclose using the function to display a representation of the geographic feature. As noted in the Office Action, Zandi does not disclose the geographic features. (*See*, Office Action, page 5).

Although Eppler discloses geographic features, Eppler fails to disclose or suggest the wavelet coefficients are derived from a plurality of data points specifying geographic locations. In contrast, Eppler completely fails to mention wavelets or wavelet coefficients. Furthermore, Eppler also completely fails to disclose computing a function that represents the geographic feature using the retrieved wavelet coefficients and using the function to display the representation of the geographic feature. In contrast, Eppler displays geographic features using ARC Digital Raster Graphics maps. (*See*, Eppler: column 13, lines 20-22).

Moreover, there is also no suggestion or motivation to combine and modify the cited references for the reasons discussed in conjunction with Claim 1.

For at least the above reasons, Applicant's independent Claim 8 is not obvious in view of the combination of Zandi and Eppler.

Independent Claim 11

Applicant's independent Claim 11 relates to a system for displaying a representation of a geographic feature. The recited system comprises a database storing a plurality of wavelet coefficients associated with the geographic feature and the wavelet coefficients are associated with a plurality of display scales. The system further recites a processor that calculates a representation of the geographic feature at a predetermined scale using the wavelet coefficients associated with the predetermined scale. Claim 11 is not obvious in view

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of the combination of Zandi and Eppler because the combination fails to disclose or suggest every claim element of Claim 11.

As discussed above in conjunction with Claim 8, Zandi fails to disclose or suggest the wavelet coefficients are derived from a plurality of data points specifying geographic locations, calculating the representation of the geographic feature using the wavelet coefficients and displaying the representation of the geographic feature. Additionally, Zandi fails to disclose the wavelets are associated with a plurality of display scales.

As discussed above in conjunction with Claim 8, Eppler also fails to disclose or suggest the wavelet coefficients are derived from a plurality of data points specifying geographic locations, calculating the representation of the geographic feature using the wavelet coefficients and displaying the representation of the geographic feature. Additionally, Eppler fails to disclose the wavelets are associated with a plurality of display scales; in fact, Eppler never mentions wavelets.

Moreover, there is also no suggestion or motivation to combine and modify the cited references for the reasons discussed in conjunction with Claim 1.

For at least the above reasons, Applicant's independent Claim 11 is not obvious in view of the combination of Zandi and Eppler.

Independent Claim 13

Applicant's independent Claim 13 relates to a method for generating a database that represents cartographic data. The recited method comprises computing a plurality of wavelet coefficients from data points specifying geographic locations and the wavelet coefficients are used to represent the cartographic data. Claim 13 is not obvious in view of the combination of Zandi and Eppler because the combination fails to disclose or suggest every claim element of Claim 13.

Although Zandi discloses producing a series of wavelet coefficients, the wavelet coefficients are computed from image data, not from the recited derived from a plurality of data points specifying geographic locations. Additionally, Zandi does not disclose using the wavelet coefficients to represent the cartographic data. Rather, Zandi discloses performs decomposition of an image to provide a series of wavelet coefficients, and then reconstructs a version of the original image using the wavelet coefficients. (*See*, Zandi: column 8, lines 3 –

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13). As noted in the Office Action, Zandi does not disclose the cartographic data and data points specifying geographic locations. (See, Office Action, pages 6-7).

Although Eppler discloses geographic features, Eppler fails to disclose or suggest the wavelet coefficients are derived from a plurality of data points specifying geographic locations. In contrast, Eppler completely fails to mention wavelets or wavelet coefficients. Furthermore, Eppler also completely fails to disclose using the wavelet coefficients to represent the cartographic data. In contrast, Eppler displays geographic features using ARC Digital Raster Graphics maps. (See, Eppler: column 13, lines 20-22).

Moreover, there is also no suggestion or motivation to combine and modify the cited references for the reasons discussed in conjunction with Claim 1.

For at least the above reasons, Applicant's independent Claim 13 is not obvious in view of the combination of Zandi and Eppler.

Independent Claim 16

Applicant's independent Claim 16 relates to a system of generating a database that represents cartographic data. The recited system comprises a processor that computes a plurality of wavelet coefficients from data points specifying geographic locations and the wavelet coefficients provide a representation of the geographic feature. For the similar reasons discussed above in conjunction with Claim 13, Claim 16 is not obvious in view of the combination of Zandi and Eppler.

Independent Claims 20 and 24

Applicant's independent Claims 20 and 24 relate to a method and system for generating a database error metric. Claims 20 and 24 recite that the database error metric provides a measurement comparing the first cartographic database and the second cartographic database. Claims 20 and 24 are not obvious in view of the combination of Zandi and Eppler because the combination fails to disclose or suggest the database error metric claim element.

Zandi fails to disclose the database error metric that provides a measurement comparing the first cartographic database and the second cartographic database. As noted in the Office Action, Zandi does not disclose the cartographic databases. (See, Office Action, pages 8). Although, Zandi does mention ordering the wavelet coefficients with respect to a

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distortion metric including peak error and mean squared error, these metrics do not provide a measurement comparing the first cartographic database and the second cartographic database.

Although Eppler discloses geographic features, Eppler also completely fails to disclose or suggest the database error metric that provides a measurement comparing the first cartographic database and the second cartographic database.

Moreover, there is also no suggestion or motivation to combine and modify the cited references for the reasons discussed in conjunction with Claim 1.

For at least the above reasons, Applicant's independent Claims 20 and 24 are not obvious in view of the combination of Zandi and Eppler.

Conclusion

With the present response, all the issues in the Office Action mailed October 20, 2004 have been addressed. Applicant submits that the present application has been placed in condition for allowance. If any issues remain, the Examiner is requested to call the undersigned at the telephone number indicated below.

Respectfully submitted,



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